Vol.11 №4. December 1997.

FORMAT

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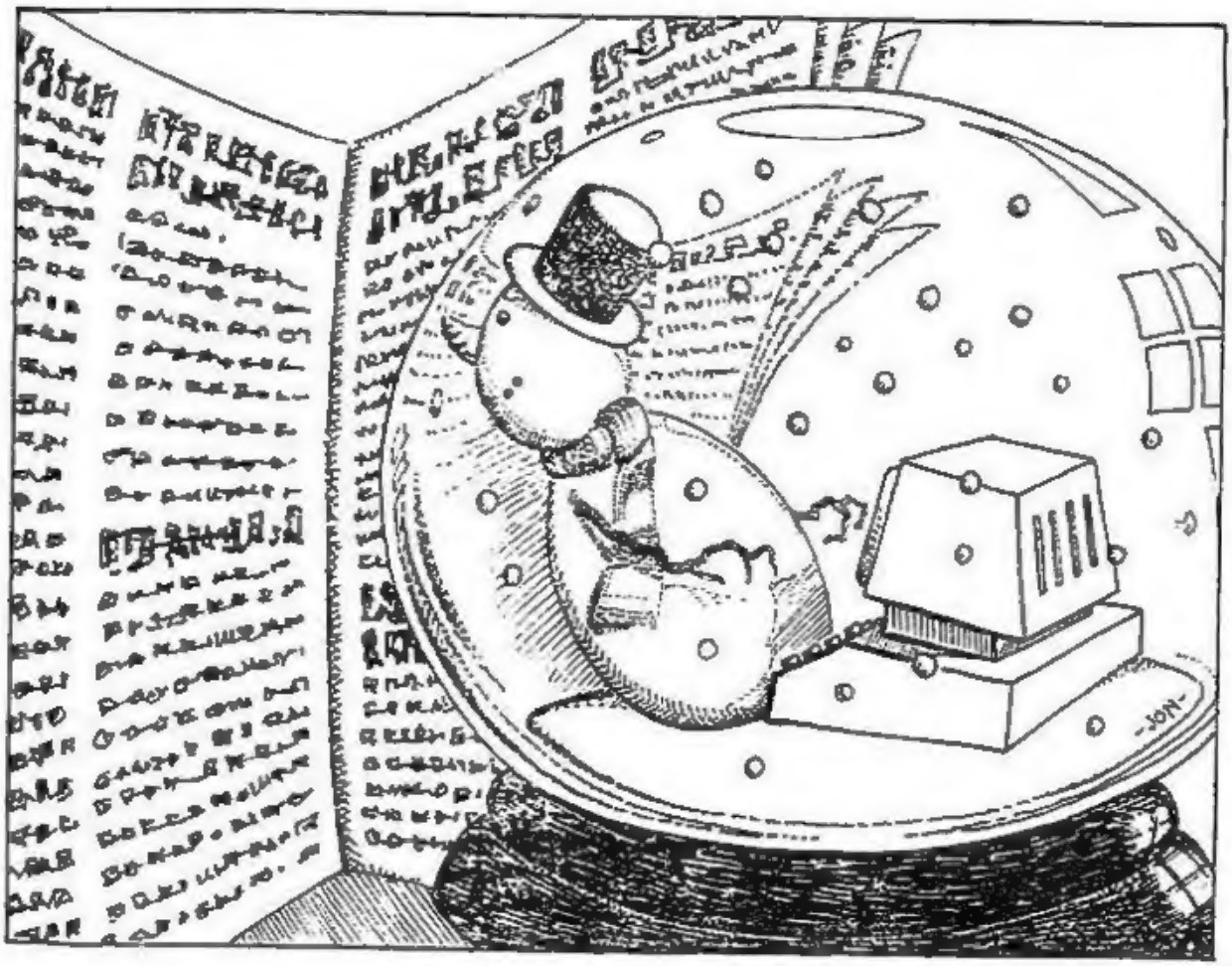

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The Editor Speaks

Despite all my plans, this issue is again very late. Still, it was meant to be the Christmas issue, so let me be the last to wish you a *Very Merry Christmas* - I've kept a couple of Christmassy items in, because even though this issue is late they are still worth having.

It is good to have John Wase back with Short Spot this month, ***FORMAT*** is just not the same without him. Please, please, please. John really does need more items for Short Spot, so while you are engrossed with your computer, during these long dark evenings we have at this time of year, have a good root through your files and sort out any small items you can and post them off to him. The same also applies to larger items which we urgently need for ***FORMAT*** itself. Come on, each and every one of you has something to contribute - all you have to do is sort it out and send it off.

Overseas readers may have been surprised to receive last months issue by a different route. We have, over that last two years, had several problems with Royal Mail International and so we are trying a different dispatch method for the next few months. We would be interested in any feed-back on the new service you would like to give, in the long run it may well allow us to reduce our overseas rates - provided of course the delivery service they give is up to scratch (although I must say anything should be better than Royal Mail).

One thing we are hoping to start soon is a series of hardware articles - including some small projects for you to build. However, we are looking for some idea of what you, the readers, would like to see covered. Drop us a line and tell us what you want.

Right. That is all the room I have. Jenny and I would like to send you all the very best of wishes for 1998.

Until next time.

Bob Brenchley, Editor.

NEWS ON 4

CLASSIX TO SCALE DOWN

James Waddington, the editor of Classix, has announced that his Spectrum games retro-fanzine, Classix will appear just *three* times a year.

Production has been scaled down due to James' University commitments, he is currently in the middle of a Journalism degree course at Bournemouth University.

"If all goes well, issue 7 of Classix should appear early in the New Year and I would ask all editors and proprietors to pass this message on." James said in a recent press release. He went on to say "I would like to thank readers for being patient and all letters which have not yet been answered will be dealt with as soon as possible."

Classix fanzine, famous for its games finding service, was established in early 1996. The magazine has previously been produced on a quarterly basis. "By making the magazine 'thirdly', I can spend more time planning articles and conducting interviews and I feel this will make the magazine a lot more interesting" James said.

HILTON MOVES

Hilton Computer Systems, famous for their Personal Banking System, have moved to a new address. The company, formally based in Guildford, Surrey, can now be found at 14, Dewpond Walk, Basingstoke, Hants, RG24 8RZ.

The companies founder and head, Jack Gibbons, remains in charge and promises continued support

YOUR NEWS HERE...

Come on readers, we need your news. Anything related to computers which you think will interest other SAM and Spectrum owners. Just jot it down on a piece of paper, add your name and membership number, and send it off to us at the usual address. Please mark the envelope 'News' so that we can give it the priority it deserves.

Remember, you get three months extra subscription for every news item we print, so don't rely on others to send an item in.

SHORT • SPOT

YOUR HINTS, TIPS AND PROGRAMMING IDEAS

Edited By:- John Wase.

Let me get the sombre bits over, first. Can I thank all of you for your help and support during the very difficult time that I've had: people like Bob and family and of course Jenny, John Saunders, who wrote a charming letter, and the many of you who telephoned or wrote. I have been much more fortunate than many. I think of the bitter, emotionally twisted people whom I've met who have been through separation and divorce and are scarred by their confrontational ordeals, when I've had two wonderful marriages to two ladies who loved and supported me. So let's look on the bright side: I hate the loneliness and the pain, but there have been very good times, too, and I'm sure these will come again.

At the time Mr Stafford-Baker wrote, at the end of September, Lorri had just come out of hospital, where she had been undergoing tests, and I put his letter aside, meaning to answer it shortly after, and of course, couldn't. In particular, he mentions that wandering through the 10-year review issue aroused an interest in a magazine indexing program, said to be in volume 3, issue 1. Cursing, he found it was out of print. He had, however, already started looking for other things in back issues, and stumbled across a reference in volume 8, issue 3, where I mentioned on page 9 that "Peter Garrick's Format Index was pressed into service and turned up something....." This is, of course, just what Mr Stafford-Baker is looking for, and by bad luck, I was merely quoting from someone else, and had no information myself about the program. Can anyone help?

Now, I needed some Christmas stuff, and nobody's sent me any. No-one at all seems to have the Christmas spirit out there. In October, I wrote, asking for silly bits, like disabling the keyboard, including the 'break' key. No-one has sent anything, so I'm going to make it a bit more complicated this time. First, look up old copies of ***FORMAT***. Find programs which allow a fuzzy mess of dots to cohere into a word. Then explode again. Find the 'keyboard disable' bit. The write a program to:-

Disable Break and Keyboard

Print "CHRISTMAS 1997" using some fancy effects.

Fade in "THE CHRISTMAS SPIRIT"

Explode

Fade in "AUCHENTOSHAN"

Explode

CLS and repeat.

The first one to have a good working version with me and a full run-down on what the line following the display and explosion of "THE CHRISTMAS SPIRIT" means will have to join me in a Christmas drink. And no prizes for guessing what's in the glass.

Christmas is a time for giving; a time for having fun. To do this, I have found over the years that one needs to be well organized - really much better organized than *I* am! Ever wonder why Roy

Burford's so well organized? I did - and now I've found out! He's got an intelligent computer. Intelligent? Sure! It writes letters on its own, and by adjusting a few phrases, it can produce the ideal letter for the occasion with minimal trouble. You don't believe me? Sceptic! Just type this in and see!!!

```
 1 REM Input? Magazine. p126.
   data-letter.
 2 REM Revised on ZX Spectrum+
    by B.C.R.Burford 060897.
10 PRINT AT 8,0;"Please ready
   printer and then"''''"press
   any key:"
11 PAUSE 0
12 FORMAT "p";1200: REM Serial
    8056 Compact Printer
14 LET LL=70: LET pL=80: REM p
   L=printer characters per li
   ne. LL=characters per line
   of letter.
15 LET LL=LL+1: LET t=(pL-LL)/
   2
20 LET d=0
30 READ a$: IF a$="zzzz" THEN
   LPRINT : STOP
38 LET L=LEN a$
40 LET c=0
50 IF c=L THEN GOTO 30
60 LET c=c+1: LET d=d+1: IF c>
   1 THEN GOTO 100
70 IF a$(c)="#" THEN GOTO 500
80 IF a$(c)="*" THEN GOTO 700
85 IF a$(c)="&" THEN GOTO 850
90 IF a$(c)="$" THEN LPRINT CH
   R$ 13;CHR$ 13;: LET d=0: GO
   TO 900
95 LET a$=" "+a$: LET L=L+1
100 IF a$(c)=" " THEN GOTO 800
110 LPRINT a$(c);
115 IF d=LL THEN LET d=0
120 GOTO 50
500 LET nL=0: LET ta=LL: LET be
   =0
510 LET Le=LEN a$-1: IF Le>LL T
   HEN PRINT FLASH 1;"Format e
   rror-address too long": PAU
   SE 200: FLASH 0: STOP
520 IF Le>be THEN LET be=Le
530 LET nL=nL+1: READ a$: IF a$
   (1)="#" THEN GOTO 510
540 RESTORE 1000
550 LET tr=t+LL-be: FOR g=1 TO
   nL: FOR h=1 TO tr: LPRINT "
    ";: NEXT h: READ a$: LPRIN
   T a$(2 TO ): NEXT g
560 GOTO 30
700 LET ta=(LL-L)/2: IF ta<t TH
   EN LPRINT CHR$ 13: PRINT FL
   ASH 1;"Format error-cannot
   centre": PAUSE 200: FLASH 0
   : STOP
710 LPRINT CHR$ 13;: FOR n=1 TO
    ta: LPRINT " ";: NEXT n: L
   PRINT a$(2 TO L): GOTO 20
800 LET sL=LL-d-1: LET cc=c+1:
   LET x=1
810 IF cc=L THEN GOTO 825
820 IF a$(cc)<>" " THEN LET cc=
   cc+1: LET x=x+1: GOTO 810
825 IF x>=LL THEN LPRINT CHR$ 1
   3: PRINT FLASH 1;"Format er
   ror-word too long": PAUSE 2
   00: FLASH 0: STOP
830 IF sL>=x THEN GOTO 110
850 LPRINT CHR$ 13;: LET d=0
900 FOR b=1 TO t: LPRINT " ";:
   NEXT b: GOTO 50
950 REM Formatting Symbols
951 REM # Address line-set to r
   ight of page
952 REM $ New paragraph-leave b
   lank line
953 REM & Start a new line
954 REM * Centre this line
955 REM Last DATA line=DATA"zzz
   z"
1000 DATA "#3, Snodgrass Gardens
   ,"
1010 DATA "#Taustenbury,"
1020 DATA "#5th. March, 1984"
1030 DATA "$"
1040 DATA "$Mr Hiram Firem,"
1050 DATA "&Production Director,
   "
1060 DATA "&Firem Electrical Eng
   ineering Co. Ltd.,"
1070 DATA "&22, Station Road,"
1080 DATA "&Taustenbury,"
1090 DATA "&TA5 1AT"
1100 DATA "&"
1110 DATA "&"
1120 DATA "&Dear Mr Firem,"
1130 DATA "&"
1140 DATA "*Engineering Trainee"
1150 DATA "&"
1160 DATA "&I wish to apply for
```

```
     the above position, as adve
     rtised in today's"
1165 DATA "&'Taustenbury Chronic
     le'."
1167 DATA "&"
1170 DATA "&As you will see from
      my CV, enclosed, I am an e
     x pupil of"
1175 DATA "&Taustenbury Grammar
     School, where my five O-lev
     els included"
1177 DATA "&English, Mathematics
      and Physics."
1179 DATA "&"
1180 DATA "&In addition, I do ha
     ve a little practical exper
     ience in electrical"
1182 DATA "&work - at home, wher
     e I helped my father (a qua
     lified electrician)"
1190 DATA "&re-wire our house, a
     nd at school where I was a
     keen member"
1200 DATA "&of the electronics c
     lub and as such helped buil
     d the school's"
1202 DATA "&public address syste
     m."
1204 DATA "&"
1210 DATA "&I have always wanted
      a career in electrical eng
     ineering, and should"
1212 DATA "&you decide to appoin
     t me will find me an enthus
     iastic worker."
1216 DATA "&"
1220 DATA "&I should be grateful
      for the opportunity of an
     early interview."
1222 DATA "&In the meantime, cop
     ies of my references are en
     closed."
1230 DATA "&"
1240 DATA "&Yours sincerely,"
1250 DATA "&"
1260 DATA "&"
1270 DATA "&"
1280 DATA "&Kenneth Sparks"
1900 DATA "zzzz"
```

Now; you've got the general idea. All you've got to do is modify some of the bits and pieces in your standard letter - like it needs your address, your telephone number, your printer control codes; maybe you prefer a different layout. Then resave. But the basics are there.

Go on, type it in and try it!

Next, there is an item which comes from FORMAT PC. Ah; the biter bit! This comes from Vol.1 N°3, a little article by Geoffrey Langford, called 'Playing with words'. Roy has taken his 'Anagrams' program, version 2, written in QBasic and converted it to Spectrum Basic. Although he (Roy) believes he has done the conversion correctly, the Spectrum version failed to produce 'fro' when 'for' was input. He intends querying this problem in FORMAT PC. However, when he wrote his own code from scratch for the Spectrum, but using Geoffrey's dictionary, he found this worked pretty well except again for three-letter words, and only when these contained two similar letters; for example 'ewe'. This, in turn, produces one of the anagrams twice; not a bad fault, really. It's ideas time, for I've nicked an advance copy of it before Roy has had time to refine it. There's always interest in a new approach, so let's have some solutions to this problem in time for next month's ***FORMAT***. Here's Roy's 'anagrams' program:-

```
 1 REM Vol.1 No3. FORMAT PC. F
   ebruary 1997. Anagrams vers
   ion 2. Geoffrey Langford. T
   his is a simple program to
   derive anagrams from 3-lett
   ered words.
 2 REM Converted to Spectrum B
   asic on ZX Spectrum+ 128K b
   y B.C.R.Burford 160397. Re-
   coded for reliability 17039
   7.
10 CLS : PRINT AT 0,15;"Anagra
   ms"
20 PRINT '"  Give the compute
   r a three-  letter word or
    anagram of it."
30 PRINT "The computer will li
   st the proper word(s), anag
```

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The original slot-in slim-line drives produced for the SAM Coupé are no longer made. If your existing drive is now showing signs of terminal decline perhaps it is time you gave your SAM a new lease of life by fitting a modern style (PC type) floppy drive.

In most cases we find the faults with old drives are mechanical (due to worn heads, stepper motor failure, etc.) In these cases you need an Internal Interface Type 1 to which you transfer the 1772 disc controller chip from your old drive - thus making the upgrade as cheap as possible..

If you want to fit a second drive (or first drive, if you don't have one or the 1772 on your old drive is faulty) then order a Type 2.

Both types are available in either kit form or ready assembled. For the kit you will need screwdriver, soldering iron, solder and a reasonable level of soldering skills. All you need for the assembled version is a screwdriver. Full fitting instructions are given and the only other thing you need is a standard PC type disc drive from your local supplier (cost about £20 to £25).

If you have any doubts about which type of interface you need, or any questions about the drive fitting in general, then please give the FORMAT hotline a ring on 01452-412572 and they will be pleased to help you.

	Kit Form	Assembled
Internal Disc Interface Type 1 (without 1772)	£19.95	£29.95
Internal Disc Interface Type 2 (including 1772)	£29.95	£39.95

INTERFACES

These interfaces work with both the SAM élite and the SAM Coupé unless otherwise stated.

SAM MOUSE SYSTEM. Interface, High Quality Mouse and the Software to drive it. The interface plugs into the mouse port on the back of SAM so you don't need a spare expansion socket. More and more software now works better if you use a mouse. ***Only £39.95***

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West Coast Computers

```
   rams and say if  known."
 35 PRINT '''Any key:"
 40 PAUSE 0
 50 DIM d$(110,3): LET n=109: L
    ET d=3: POKE 23658,0: CLS
 60 FOR j=1 TO n: READ d$(j): N
    EXT j
 70 DATA "ate","eat","tea","ton
    ","not","ant","tan","net","
    ten","sad","the","one","fin
    ","den","end","ned"
 80 DATA "bus","sub","ram","arm
    ","put","its","sit","fan","
    job","son","dad","out","add
    ","fun","fad","hen"
 90 DATA "ran","run","urn","gas
    ","sag","red","and","dan","
    mad","dam","elm","tag","gat
    ","ago","rot","far"
100 DATA "did","lip","lid","pig
    ","gip","ire","rie","nip","
    pin","rip","sin","sam","fag
    ","for","fro","cab"
110 DATA "nab","ban","dim","mid
    ","sip","fly","man","top","
    pot","opt","bad","dab","but
    ","tub","bun","nub"
120 DATA "rob","lad","fed","god
    ","dog","hit","gob","bog","
    win","yet","key","get","her
    ","him","big","fig"
130 DATA "hot","kit","sat","two
    ","wot","tow","tar","art","
    rat","rag","nob","ewe","wee
    "
140 INPUT "Three-letter word: "
    ;a$
150 LET w$=a$: LET f=0: GOSUB 3
    00: GOSUB 350
180 LET a=1: LET b=3: LET c=2:
    GOSUB 400: LET f=0: GOSUB 3
    00: GOSUB 350
190 LET a=2: LET b=1: LET c=3:
    GOSUB 400: LET f=0: GOSUB 3
    00: GOSUB 350
200 LET b=3: LET c=1: GOSUB 400
    : LET f=0: GOSUB 300: GOSUB
     350
210 LET a=3: LET b=1: LET c=2:
    GOSUB 400: LET f=0: GOSUB 3
    00: GOSUB 350
220 LET b=2: LET c=1: GOSUB 400
    : LET f=0: GOSUB 300: GOSUB
     350
270 PRINT '';"Any key for next,
     Q to exit:"
275 LET a$=INKEY$: IF a$="" THE
    N GOTO 275
280 IF a$<>"q" AND a$<>"Q" THEN
     CLS : GOTO 140
290 STOP
300 FOR x=1 TO n
310 IF d$(x)=w$ THEN LET f=1: L
    ET x=n
320 NEXT x: RETURN
350 IF f=1 THEN PRINT '';w$;"..
    .is a good one!": GOTO 370
360 PRINT ''w$;"...is no good
     "
370 RETURN
400 LET w$=a$(a)+a$(b)+a$(c): R
    ETURN
```

Many thanks, Roy.

Now, listen! Roy writes to me that this is the last batch for a while. And asks, "Is there anyone else out there still using a Spectrum?" I feared this would happen. Come on; it's up to others to fill this gap for a while. So let's have some contributions in time to bridge that New Year Gap. I can't make bricks without straw, and can't write a **Short Spot** without your help, so please write - I need your stuff, however trivial *you* think it is!

Now let's finish by looking at 'George'. *George???* Yes; George. You remember Dean Shepherd of Bristol, who had trouble with a UniDOS version of a labelling program in October? Well, he also sent me a game. Now in the normal course of events, I would have copied that game and sent it to Bob, with a note that it was a separate job, and perhaps he could make a feature of it. After all, It's around four and a half pages long!!! However, I have some excuses. Firstly, my life has again been turned upside down, by a domestic calamity. This has meant that I have not been able to chastise and chase you in the November issue, in order to ensure I had *something* Christmassy to print! I have also lost some of the bits and pieces I should have

had. All sorts of well meaning friends and relatives have helped me clear up the mess. and as some other items have sentimental value have also disappeared, it seems probable that that's where the "Short Spot" bits have gone, too! Finally, you lot (with a few very, very notable exceptions) *ARE A MISERABLE GOOD FOR NOTHING SHOWER, BECAUSE YOU'VE NOT SENT ME NUFFIN. AND NOW YOU'VE A FEW DAYS OFF FOR CHRISTMAS, I SHALL EXPECT GREAT THINGS!!!* There. That's why I've had to use a perfectly splendiferous game which should have featured on its own in ***FORMAT*** instead! This is an exception rather than the rule, and will not normally happen. Er...Happy Christmas...

Anyway, here's 'George', and as I mentioned, it's a game Dean typed in from *Your Spectrum* some years ago. Entirely in Basic. A bit rough and ready, says Dean, but it works. And it works on your Spectrum, since SAM wasn't invented when this game was written. Howzatt!! Can't be bad! Get typing!

```
  1 REM
  2 LET hi=0
  3 INK 7: PAPER 0: BORDER 0: C
    LS : GOSUB 9980: LET L=2: G
    OSUB 9990
  8 FOR i=0 TO 110 STEP 5: PLOT
     OVER 1; INK 7;i,102: BEEP
    .01,5: FOR g=1 TO 5: NEXT g
    : PLOT OVER 1; INK 7;i,102:
     NEXT i
  9 PRINT AT 19,9; INK 6; FLASH
     1;"THE BEGINNING"; INK 4;
    INVERSE 1; AT 21,10;"PLEASE
     WAIT"
 10 GOTO 9000
 49 REM ***direction of george*
    **
 50 IF k>=3 THEN LET k=3: RETUR
    N
 60  IF k<=2 THEN LET k=1: RETU
    RN
 80 IF k=1 THEN LET k=2: LET b=
    y-1: RETURN
 90 IF k=3 THEN LET k=4: LET b=
    y+1: RETURN
 99 REM ****george routine****
100 FOR f=1 TO 2
105 IF INKEY$=" " THEN GOSUB 30
    0
110 IF INKEY$="o" THEN LET y=y-
    1: LET k=4: LET a=x: LET b=
    y+1: GOTO 145
120 IF INKEY$="p" THEN LET y=y+
    1: LET k=2: LET a=x: LET b=
    y-1: GOTO 145
130 IF INKEY$="q" THEN LET x=x-
    1: GOSUB 50: LET a=x+1: LET
     b=y: GOTO 145
140 LET x=x+1: GOSUB 50: LET a=
    x+1: LET b=y
145 IF x=0 THEN LET r=r-10: LET
     x=18: LET a=x+1: LET b=y:
    GOTO 8000
150 IF a=21 THEN LET r=r+10: LE
    T x=1: LET a=x-1: LET b=y:
    GOTO 8000
155 IF y=1 THEN LET r=r-1: LET
    y=29: LET a=x: LET b=y+1: G
    OTO 8000
160 IF y=31 THEN LET r=r+1: LET
     y=2: LET a=x: LET b=y-1: G
    OTO 8000
170 IF ATTR(x,y)=1 OR ATTR(a,b)
    =1 THEN LET x=x1: LET y=y1:
     LET a=x1+1: LET b=y1: GOSU
    B 50: LET air=air-1: BEEP .
    01,40: GOSUB 2500
175 IF ATTR(x,y)=1 OR ATTR(a,b)
    =1 THEN GOSUB 7000
180 IF ATTR(a,b)=1 THEN LET x=x
    -1: LET a=a-1: IF ATTR(x,y)
    =1 THEN LET x=x+1: GOSUB 80
    : GOSUB 2500
185 IF ATTR(a,b)=6 THEN GOTO 20
    00
190 PRINT AT x1,y1;" "; AT a1,b
    1;" "; AT x,y;a$(k); AT a,b
    ;b$(k): LET x1=x: LET y1=y:
     LET a1=a: LET b1=b
196 IF m=1 AND f=1 THEN GOSUB 2
    05
197 IF m1=1 AND f=2 THEN GOSUB
    250
198 NEXT f: GOTO 100
199 REM ****MONSTERS****
205 LET s=s+(s<x)-(s>x)
210  LET t=t+(t<y)-(t>y)
220 IF ATTR(s,t)<>7 THEN LET s=
```

```
    s1: LET t=t1
 230 PRINT AT s1,t1;" "; AT s,t;
     e$(k1): LET k1=k1+1: IF k1=
     3 THEN LET k1=1
 235 IF s=x AND t=y THEN LET air
     =air-5: BEEP .01,10: GOSUB
     2500: LET m=0
 240 LET s1=s: LET t1=t: RETURN
 250 LET u=u+(u<x)-(u>x)
 260 LET v=v+(v<y)-(v>y)
 270 IF ATTR(u,v)<>7 THEN LET u=
     u1: LET v=v1
 280 PRINT AT u1,v1;" "; AT u,v;
     f$(k2): LET k2=k2+1: IF k2=
     3 THEN LET k2=1
 285 IF u=x AND v=y THEN LET air
     =air-5: BEEP .01,10: GOSUB
     2500: LET m1=0
 290 LET u1=u: LET v1=v: RETURN
 299 REM    **** ZAP ****
 300 IF y<4 AND k>2 THEN RETURN
 305 IF y>27 AND k<3 THEN RETURN
 310 GOTO 310+(5*k)
 320 FOR i=y+1 TO y+4: IF ATTR(x
     ,i)=1 OR ATTR(x,i)=1 THEN G
     OTO 1000
 321 NEXT i: PRINT AT x,y+1; INK
      5;"QQQQ": FOR i=10 TO 0 ST
     EP -1: BEEP .005,i: NEXT i:
      IF m=1 THEN GOSUB 5000
 322 IF m1=1 THEN GOSUB 5050
 324 PRINT AT x,y+1;"     ": RETU
     ■
 330 FOR i=y-4 TO y-1 STEP 1: IF
      ATTR(x,i)=1 OR ATTR(x,i)=1
      THEN GOTO 1000
 331 NEXT i: PRINT AT x,y-4; INK
      5;"QQQQ": FOR i=10 TO 0 ST
     EP -1: BEEP .005,i: NEXT i:
      IF m=1 THEN GOSUB 5000
 332 IF m1=1 THEN GOSUB 505
 334 PRINT AT x,y-4;"     ": RETU
     RN
 999 REM  *** HIT A ROCK ***
1000  PRINT INK 1; AT x,y;a$(k);
      AT a,b;b$(k): BEEP .01,30:
      LET air=air-2: GOSUB 2500:
      PRINT INK 7; AT x,y;a$(k);
      AT a,b;b$(k): RETURN
1999 REM     ** TELEPORT **
2000 INPUT "DESTINATION 1 TO 6="
     ;d: IF d<1 OR d>6 THEN GOTO
      2000
2005 IF d=1 THEN LET r=1
2010 IF d=2 THEN LET r=10
2015 IF d=3 THEN LET r=46
2020 IF d=4 THEN LET r=91
2025 IF d=5 THEN LET r=100
2030 IF d=6 THEN LET r=101
2040 LET x=x-3: LET a=a-3: LET a
     1=a: LET x1=x: LET b=y: LET
      b1=b: GOSUB 50: FOR j=1 TO
      3: FOR i=1 TO 7: BEEP .01,
     i*6: PRINT AT 10,10; INVERS
     E 1; INK i;"TELEPORTING!":
     NEXT i: NEXT j: GOTO 8000
2499  REM    ** AIR LOSS **
2500 PRINT #1; AT 0,5; PAPER 1;"
        "; AT 0,5;air: IF air<1
     THEN GOTO 3000
2510 RETURN
2999  REM  **** DIE ****
3000 FOR i=1 TO 3: FOR g=0 TO 7:
      PRINT INK g; INVERSE 1; AT
      10,11;"GAME OVER!": BEEP .
     01,g: BEEP .01,i: BEEP .01,
     g*i: NEXT g: NEXT i: PAUSE
     0
3010 IF sc>hi THEN LET hi=sc
3020 GOTO 9200
4000 PRINT #1; PAPER 1; AT 0,20;
     sc: RETURN
4999  REM  ** ZAP A MONSTER **
5000 IF ATTR(s,t)=5 THEN LET m=0
     : FOR i=0 TO 40 STEP 5: BEE
     P .01,i: NEXT i: LET sc=sc+
     100: GOSUB 4000
5010 RETURN
5050 IF ATTR(u,v)=5 THEN LET m1=
     0: FOR i=40 TO 0 STEP -5: B
     EEP .01,i: NEXT i: LET sc=s
     c+100: GOSUB 4000
5060 RETURN
6999 REM  ** GET A BOMB **
7000 IF bom=8 THEN GOTO 7500
7010 LET bom=bom+1: FOR i=60 TO
     -60 STEP -6: BEEP .01,i: NE
     XT i: LET p(g)=0: PRINT #1;
      PAPER 1; AT 1,7;bom: LET s
     c=sc+500: GOSUB 4000: RETUR
     N
7500 FOR i=0 TO 50: BEEP .01,i:
     BEEP .01,50-i: NEXT i: PRIN
     T FLASH 1; INK 6: AT 20,10;
     "BOMB PRIMED": FOR i=0 TO 2
     00: NEXT i: PRINT AT 20,10;
      INK 1;"QQQQQQQQQQ"; AT 14
     ,4; INK 7;"          "
7510 LET bom=10: LET sc=sc+2000:
      GOSUB 4000: GOTO 100
```

```
7998 REM ****  ROOMS  ****
7999 REM ****USE COLOUR CONTROL
     CODES****line 8020 ink 2;li
     ne 8021 ink3; line 8022 ink
      4; all spaces ink 7****
8000 LET x1=x: LET y1=y: LET a1=
     a: LET b1=b
8002 IF r>70 THEN LET l=4: GOTO
     8009
8005 IF r<31 THEN LET l=3: GOTO
     8009
8008 LET l=2
8009 CLS : FOR i=1 TO 10: PRINT
     AT INT (RND*6)+8,INT (RND*2
     0)+6; INK l;"L": NEXT i
8010 FOR i=0 TO 4: PRINT AT i,0;
      INK l;"(32 * CHR$ 143)": N
     EXT i: FOR i=17 TO 21: PRIN
     T AT i,0; INK l;"(32 * CHR$
      143)": NEXT i
8015  GOSUB (8018+l): GOTO 8025
8020 PRINT AT 5,0;"MLMMLLMLLMMML
     LMMLLMLMLMLLMMLLMLN  N  N
     NNN  NN  N N N  NN  N  N";
     AT 15,0;"I II  I  I  I  III
      I II  II I IIJKJJKKJKKJKKJ
     KKJJJKJKJJKKJJKJKKJ": RETUR
     N
8021 PRINT AT 5,0;"MLMLMMLMLMMLL
     LMLMLMMLLMLLLMLMMLMN N NN N
      NN   N N NN  N   N  N N";
     AT 15,0;"I I  I  I I I  III
        I II  I I IJKJKKJKKJKJKJ
     KKJJJKKKJKJJKKJKJKJ": RETUR
     N
8022 PRINT AT 5,0; INK 2;"MLMMLM
     MLMMLMLLLMLMMLMLMMLLLLMLMMN
      NN NN NN N   N NN N NN
     N NN"; AT 15,0;"I I I II  I
     I   I II III I  I I IJKJKJK
     JJKKJJKKKJKJJKJJJKJKKJKJKJ"
     : RETURN
8025  GOSUB (8040+a(r))
8030 GOTO 8200
8041 RETURN
8042 GOSUB 8100: GOSUB 8110: GOS
     UB 8120: GOSUB 8130: RETURN

8043 GOSUB 8110: RETURN
8044 GOSUB 8100: RETURN
8045 GOSUB 8100: GOSUB 8110: GOS
     UB 8120: RETURN
8046 GOSUB 8100: GOSUB 8110: GOS
     UB 8130: RETURN
8047 GOSUB 8120: GOSUB 8130: RET
     URN
8048 GOSUB 8100: GOSUB 8120: GOS
     UB 8130: RETURN
8049 GOSUB 8110: GOSUB 8120: GOS
     UB 8130: RETURN
8050 GOSUB 8130: RETURN
8051 GOSUB 8120: RETURN
8052 GOSUB 8110: GOSUB 8120: RET
     URN
8053 GOSUB 8100: GOSUB 8120: RET
     URN
8054 GOSUB 8110: GOSUB 8130: RET
     URN
8055 GOSUB 8100: GOSUB 8130: RET
     URN
8056 GOSUB 8100: GOSUB 8110: RET
     URN
8100 FOR i=4 TO 16: PRINT INK l;
      AT i,0;"OOOO": NEXT i: RET
     URN
8110 FOR i=4 TO 16: PRINT INK l;
      AT i,28;"OOOO": NEXT i: RE
     TURN
8120 FOR i=0 TO 6: PRINT INK 7;
     AT i,12;"        ": NEXT i:
     RETURN
8130 FOR i=15 TO 21: PRINT INK 7
     ; AT i,12;"        ": NEXT
     i: RETURN
8200 IF r=41 THEN FOR i=7 TO 14:
      PRINT INK 2; AT i,0;"
       N": NEXT i: FOR i=1 TO 5
     : PRINT INK 5; AT 9+ i,0;d$
     (i): NEXT i: IF bom=10 THEN
      GOTO 9910
8210 IF r=1 OR r=10 OR r=46 OR r
     =91 OR r=100 OR r=101 THEN
     PRINT AT 13,14; INK l;"N  N
     "; AT 14,14;"NNNN"; AT 13,1
     5; INK 6;"NN"; AT 11,14; IN
     K 7;"    "; AT 12,14;"    "
8220 IF r=101 THEN PRINT INK l;
     AT 8,14;"OOOO": FOR i=9 TO
     12: PRINT AT i,14; INK l;"N
     "; AT i,17;"N": NEXT i: PRI
     NT INK l; AT 14,4 ; INVERSE
      l;"BOMB PAD": IF bom=8 THE
     N PRINT AT 8,14;"    ": FOR
      i=40 TO 45: BEEP .01,i: NE
     XT i
8240 FOR i=1 TO 8: IF p(i)=r THE
     N PRINT AT 10,15; INK l;"T"
     : LET g=i
8245 NEXT i
8250 PRINT #1; AT 0,0; PAPER l;"
```

```
      AIR=          SCORE=
           BOMBS=        HIGH=
                  "; AT 0,5;air; AT
      1,7;bom; AT 0,20;sc; AT 1,
      19;hi
8255 LET m=0: LET m1=0
8260 IF RND>.45 THEN LET m=1: LE
      T s=INT (RND*6)+8: LET t=IN
      T (RND*20)+6: LET s1=s: LET
       t1=t: LET k1=1: IF ATTR(s,
      t)<>7 THEN LET m=0: GOTO 82
      60
8270 IF RND>.45 THEN LET m1=1: L
      ET u=INT (RND*6)+8: LET v=I
      NT (RND*20)+6: LET u1=u: LE
      T v1=v: LET k2=1: IF ATTR(u
      ,v)<>7 THEN LET m1=0: GOTO
      8270
8300 GOTO 100
8999 REM *** UDG's ETC. ***
9000 RESTORE 9010: FOR i=USR "A"
       TO USR "T"+7: READ j: POKE
       i,j: NEXT i
9005 LET G$=""
9006 READ J:IF J<>-1 THEN LET G$
      =G$+CHR$ J: GOTO 9006
9010 DATA 28,50,49,49,30,12,28,1
      18,118,123,124,92,46,70,44,
      14,0,47,87,15,223,255,176,0
      ,28,178,177,241,254,240,112
      ,56
9020 DATA 56,76,140,140,120,48,5
      6,110,110,222,62,58,116,98,
      52,112,56,77,141,143,127,15
      ,14,28,0,244,234,240,251,25
      5,13,0
9030 DATA 24,24,24,24,36,44,36,4
      4,70,74,66,86,131,143,131,1
      51,24,24,36,44,74,66,151,13
      9,139,151,66,74,44,36,24,24
      ,151,131,143,131,86,66,74,7
      0,44,36,44,36,24,24,24,24
9040 DATA 0,192,51,12,0,0,0,0
9050 DATA 129,66,36,24,60,102,12
      6,0,129,66,36,24,60,24,126,
      0
9060 DATA 0,24,60,90,90,126,36,2
      4,255,24,60,90,90,126,36,24
9070 DATA 128,92,62,79,95,127,62
      ,28
9180 DATA 32,32,32,48,32,32,20,1
      ,129,20,0,32,20,1,130,20,0,
      32,20,1,132,20,0,131,32,131
      ,20,1,132,20,0,130,32,20,1
9181 DATA 132,20,0,131,32,20,1,1
      34,20,0,134,32,20,1,132,20,
      0,134,20,0,32,32,32,32,32,3
      2,32,32,32,32,32,32,32,20,1
9182 DATA 133,20,0,131,133,32,20
      ,1,132,20,0,131,32,32,20,1,
      133,20,0,32,32,20,1,132,20,
      0,131,32,20,1,133,20,0,133
9183 DATA 32,20,1,129,134,20,0,3
      2,32,32,32,32,32,32,32,32,3
      2,32,32,32,20,1,133,20,0,32
      ,133,32,20,1,129,131,20,0
9184 DATA 32,32,20,1,133,20,0,32
      ,32,20,1,129,131,20,0,32,13
      4,20,1,134,20,0,32,20,1,133
      ,20,0,133,-1
9100 DIM a(101): FOR i=1 TO 101:
       READ j: LET a(i)=j: NEXT i
9110 DATA 15,10,1,1,10,10,1,14,4
      ,14,2,2,4,14,13,12,6,8,3,2
9120 DATA 2,2,15,9,15,10,9,13,14
      ,2,5,13,7,7,9,5,13,3,2,2
9130 DATA 1,1,9,13,9,4,14,4,12,2
      ,15,10,11,1,7,14,2,15,10,9
9140 DATA 8,11,1,1,12,8,12,8,7,9
      ,8,1,1,10,3,8,1,11,7,9
9150 DATA 2,4,14,8,1,11,14,6,5,5
      ,13,1,11,12,4,1,11,11,1,3,1
      6
9160 LET a$="NDEG": LET b$="BC•H
      ": LET e$="P ": LET f$="RS"
9170 DIM d$(5,19): LET d$(1)="
           "+CHR$132: LET d$(2)="
           "+CHR$132+CHR$143: LET
      d$(3)="     "+CHR$132: LET d
      $(4)=CHR$135+CHR$132+CHR$13
      1+CHR$131+CHR$131+CHR$131+C
      HR$135+CHR$133: LET d$(5)="
       "+CHR$129+CHR$135+CHR$139+
      CHR$131+CHR$135+CHR$139
9200 CLS : PRINT INK 5; AT 0,5;"
      GEORGE AND THE DEADLY"
9210 PRINT INK 3; AT 2,0;G$
9220 PRINT INK 4; AT 6,0;"  A DE
      E BOMBS AND THEN SET THE BO
      MB OFF.DO NOT TOUCH OR SHOO
      T THE RADIOACTIVE ROCKS OR
      YOUR AIR SUPPLY MAY BE EXHA
      USTED."
9230 PRINT INK 6; AT 16,2;"BE A
      HERO AND SAVE THE WORLD"
9240 PRINT AT 19,0; INK 5;"
                KEYS
       O = LEFT          P = RIGHT
            Q = UP            SPACE
       = FIRE"; OVER 1; AT 19,13;
```

```
     •____•
9250 PRINT #1; INVERSE 1; AT 0,8
     ; INK 6;"PRESS S TO START"
9260 FOR i=1 TO 2: FOR g=1 TO 15
     : NEXT g: PRINT AT 2,2;e$(i
     ); AT 2,29;f$(i); AT 18,2;f
     $(i); AT 18,29;e$(i): NEXT
     i: IF INKEY$="s" THEN GOTO
     9600
9270 GOTO 9260
9500 PAUSE 0
9600 LET r=41: LET x=10: LET y=1
     0: LET a=11: LET b=10: LET
     k=1
9610 LET sc=0: LET air=400: LET
     bom=0
9660 DIM p(8): GOSUB INT (RND*4)
     +9670
9665 FOR i=1 TO 8: READ j: LET p
     (i)=j: NEXT i: GOTO 8000
9670 RESTORE 9710: RETURN
9671 RESTORE 9720: RETURN
9672 RESTORE 9730: RETURN
9673 RESTORE 9740: RETURN
9710 DATA 15,17,31,38,43,69,71,9
     5
9720 DATA 7,9,13,27,54,57,82,88
9730 DATA 16,31,45,48,51,58,75,8
     8
9740 DATA 2,13,19,36,49,63,90,95
9910 FOR i=14 TO 7 STEP -1: PRIN
     T AT i,9;" ": BEEP .1,i: NE
     XT i
9920 FOR i=29 TO 6 STEP -1: PRIN
     T AT 12,i;CHR$150;CHR$151;"
      ": FOR g=1 TO 10: NEXT g:
     NEXT i
9930 FOR i=1 TO 9: PRINT AT 9,0;
     " ": FOR f=1 TO 5: PRINT IN
     K 5;d$(f)(i TO 9): NEXT f:
     BEEP .01,5: NEXT i
9940 CLS : GOSUB 9980: LET 1=2:
     GOSUB 9990
9950 FOR i=110 TO 0 STEP -5: PLO
     T OVER 1; INK 7;i,102: BEEP
      .01,5: FOR g=1 TO 2: NEXT
     g: PLOT OVER 1; INK 7;i,102
     : NEXT i
9955 FOR g=1 TO 3: FOR i=2 TO 6:
      LET 1=i: GOSUB 9990: BEEP
     .01,g*i: NEXT i: NEXT g
9960 FOR i=1 TO 8: BEEP .01,-10:
      BEEP .01,(i*5)-20: PRINT I
     NK 6; OVER 1;; AT 9,15+i;"N
     N"; AT 9,14-i;"NN"; AT 9+i,
     15;"N"; AT 10+i,15;"N"; AT
     9-i,15;"N"; AT 8-i,15;"N":
     NEXT i
9965 LET 1=0: GOSUB 9990: PRINT
     AT 18,15; OVER 1; INK 6;"N"
     ; AT 0,15;"N"; AT 9,24;"N";
      AT 9,6;"N"
9970 PRINT AT 19,12; INK 6; FLAS
     H 1;"THE END": PAUSE 0: GOT
     O 3010
9980 FOR i=1 TO 30: PLOT INT (RN
     D*255),INT (RND*175): NEXT
     i: RETURN
9990 PRINT INK 1; AT 8,14;" ";
     INVERSE 1;CHR$130;CHR$129;
     INVERSE 0; AT 9,14;CHR$143;
     CHR$143;CHR$143; AT 10,14;"
      ";CHR$135;CHR$139;"
     ": RETURN
```

[Editor's note: underlined letters in the program (ie. N) should be entered as UDGs. Feeling lazy? Ok then, send a formatted disc with two first class stamps and we will copy the program to disc for you, aren't we good to you? ***Ed.***]

Don't forget, now - I've almost emptied the bucket. If you don't send 'em, we can't print 'em, and you've not been sending 'em. Have you. So write some snippets. Now. C'mon - you've got time over Christmas! Please then send all your snippets to me; without them I can't put a column together. Please send them on a disc (they're now cheaper than the stamp on the envelope, so copy it; don't ask for it back) *with* a print out *and* a printed explanation to:-

John Wase,
Green Leys Cottage,
Bishampton,
Pershore,
Worcs,
WR10 2LX.

...and this bear-brain (yessir; that's me) might just get enough of the gist of it to be able to write coherently about it!

A Merry Christmas and a Happy New Year to all of you, and again, thank you.

TUNING FOR 5

By:- Bob Brenchley.

When we first announced the coming of Channel 5 to TV screens near you (well, near to some of you anyway) I braced myself for the flood of calls from owners asking for to have their SAMs modulator adjusted to prevent C5 interference. I also promised readers an article on how to do the job themselves.

My first thought was to sit back for a while, help people in trouble via ***FORMAT***'s technical hot-line, and in that way I would get a feel for the problems that people would experience. My hope being that I would then be able to write the definitive article to answer all the questions. Instead, you will have to put up with this one.....

So far the new Channel 5 transmissions do not seem to have caused SAM users too many problems. The dire warnings that everyone would need to have their power supply units changed (because that is where the TV modulator unit is mounted) have proved unfounded. This, it appears to me, is down to four main reasons.

First, most of you use a monitor or SCART TV. Then, of those of you who still rely on the UHF TV output, few of you use your SAM close to the family's TV, and you really do need to be quite close to cause interference problems. Second, Channel 5 seems to be transmitting a very weak signal (if Gloucester is anything to go by) and therefore I have yet to hear of a case where Channel 5 has 'broken through' while someone is using their SAM. And finally, because if the viewing figures are anything to go by, few of you are watching Channel 5 to see any interference.

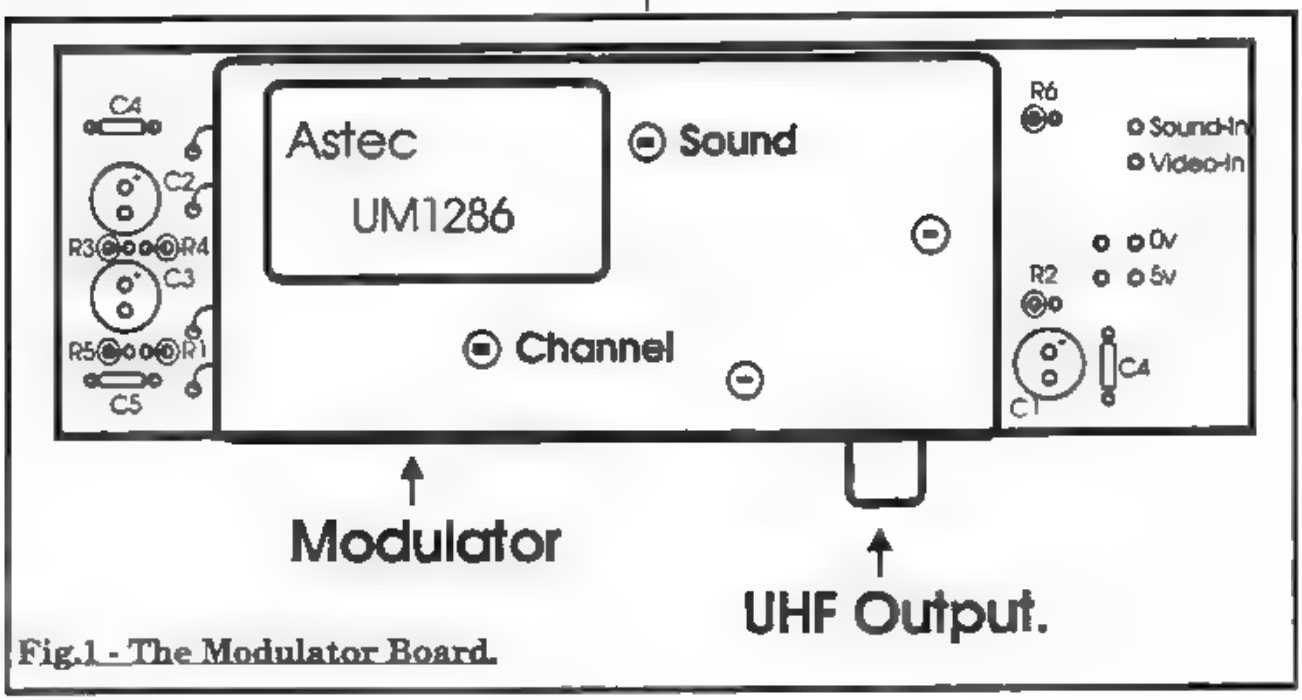

Fig.1 - The Modulator Board.

However, just is case, here are the details of how to adjust the output frequency of the SAM's TV modulator.

With the power supply unplugged, turn it upside-down and using a posidrive screwdriver remove the four screws (one at each corner). Turn the PSU the right way up again and take off the lid. Inside you will clearly see the modulator (the metal can) mounted on a small board.

You will also notice the mains transformer - this is the part that, at all costs, you must not touch when the PSU is switched on - 230 volts up your arm could prove fatal (and we don't like to see readers fried, if it happens too often it could get us a bad name...)

Anyway. If you compare the sketch in fig.1 with your modulator you will clearly see that there are four holes in the top of the metal 'can'. Looking down into the holes you will see that two have brass screws (slugs) in them while the other two have black ones. It is the two black ones that we are interested in. One adjusts the output frequency (TV channel) while the other adjusts the sound sub-carrier offset which I will come back to later.

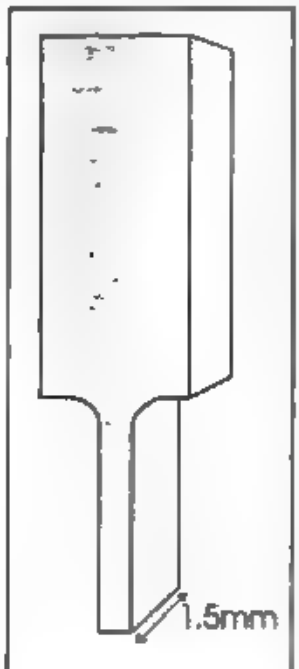

Fig.2 - The Tool.

What is needed is to move the output frequency of the modulator away from the preset frequency of channel 36, so that: a) its output does not interfere with Channel 5 on a nearby TV set; and b) Channel 5 does not interfere with SAM (far more important to my mind). To do this you will need a proper plastic tuning tool, which you should be able to obtain from your local branch of Tandy or Maplin - whatever you do, do not use a screw- driver, even if it is small enough - the slugs are made of a ferrite material which is very easily broken. The tool should have one end that looks like the diagram in fig.2.

If your TV has direct channel number input then select a channel number at least two, and preferably three away from channel used for the C5 transmissions in your area. Make sure the AFC switch on your telly is in the off position.. Provided your video has been retuned for C5 you should be able to find a blank TV channel which shows no sign of either C5 or the output signal from your video.

Now switch on your SAM and insert the tuning tool into the 'channel' adjuster on the modulator (keeping hands well away from the transformer).

Turn the slug gently until a clear picture appears on the TV. It should not require more than a couple of turns in one direction or the other to change the tuning.

If you can't get a picture, or if your TV does not have direct channel number input for tuning, then turn the slug so that top of the slug is level with the plastic sleeve in which it turns - it is difficult to explain, but it will be clear what I mean as soon as you look at the modulator. Now use the manual tuning switch/buttons to hunt for SAM's output. When you find it, if there is any interference from the video or C5 then screw the slug in (gently) as far as it will go and try searching again.

If all is well, then you just need to turn off the power and screw the top back on -

and that, as they say, is that - or is it?

The only problem I can foresee is that you cannot find a signal frequency (within the modulator's range of adjustment) that is free from some form of cross interference. Either the SAM, the video or Channel 5 causes interference with one (or the other) of the other two. A fix is possible, by replacing the modulator with one that covers a wider channel range, however, this would in my opinion be an expensive waste - it would be better to put the money towards a proper monitor.

Now, just before you screw the cover back on, there is one other adjustment you may like to try. This is to the second slug labelled on fig.1, the one that controls the sound sub-carrier of the UHF signal.

The PAL signal standard has a few variants, most notably in the displacement (from the picture information) of the part of the signal that contains the sound content. This can be adjusted and will quite often produce a clearer sound quality.

First type in these few lines of Basic:-

```
10 BEEP .5,1
20 PAUSE 25
30 GOTO 10
```

Now run the program and you will hear a continuous beeping from the TV, it should be reasonably clear with little or no background hum. If the sound quality is not good, then use your tuning tool to adjust the sound slug a little. It should not require more than half a turn in either direction to get the best sound. unless you are using it in a country where the TVs have a different sound offset - in which case larger adjustment may be needed. Again let me stress that you should do any adjustment very carefully as the slugs are far from being the most robust things in the world.

Right, unplug the power supply and screw the lid back on your power supply, that is all the adjustments you can make without specialist equipment. Hopefully you will now have a good signal, without any interference, and with good sound quality.

Just in case you are interested, I'm listing below the component values for the parts on the modulator board. I've never known any of them to fail, but (just in case) here they are:-

C1 22µF Electrolytic
C2 22µF Electrolytic
C3 22µF Electrolytic
C4 0.1µF Disc Ceramic
C5 56pF Ceramic
C6 0.1µF Disc Ceramic
R1 3KΩ Resistor
R2 56Ω Resistor
R3 4KΩ Resistor
R4 1KΩ Resistor
R5 2KΩ Resistor
R6 18KΩ Resistor

SPECTRUM USERS

The Spectrum's modulator is mounted on the main circuit board, so you have to open your Spectrum up in order to get at it. I will leave it up to you to work out how to open the case as it is different with each model.

The modulator on the Spectrum is smaller than the SAM's and only has one tuning slug which controls the UHF output frequency. This can be tuned in exactly the same way as SAM.

I'm not sure how you would adjust the sound sub-carrier on 128K machines - if anyone out there has the details perhaps they will be kind enough to let us all know.

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SCADs PD Yes, at last, we are pleased to re-release SCADs - the arcade game development system for SAM. Previously sold by Glenco at £24 95 we have now placed the software into the Public Domain so the disc costs you ***Only £2.50.*** The full manual (over 200 pages) is also available for £12.95 (overseas please add an extra £1 to postage rates below because of weight)

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YOUR LETTERS

Dear Editor,

I know I'm a bit late, but congratulations on your magazine's tenth birthday anyway. I am amazed that you still find new material to publish each month, but I hope you will continue to do so for many years more.

Some time back you mentioned that you planned to do a new version of the SAM manual, has there been any advance on this?

Yours sincerely, David Brown.

The intention still is to produce a new manual at some point. However, my appeal for little example routines that could be used to explain some of the command fell on deaf ears as I only received something from three people.

What I envisioned was each command or function starting on a new page giving details of its syntax and examples which show the command/function in action.

One major section, to replace the existing FLASH! manual, has been written by Carol Brooksbank and has been ready for ages - it just needs typesetting.

If anyone is interested in writing parts of the manual I would welcome any help I can get. Some text from the original has already been typed in or OCRed, and there is the original Sinclair Spectrum manual on disc which could be useful. ***Ed.***

Dear Editor,

Thank you for convincing me to renew my subscription. I have been on a wayward and intrepid, winding journey away from Z80 world, only rarely re-entering the binary star system of logicis, and touching down on Planet PC to process messages from Beaurocrassia, BT-Communicati and Maila-Royalis.

A friend recently had the sense to buy a 48K Spectrum with a dubious collection of old games, and obscure hardware from c.1982 (16K RAM pack? I don't know - I started out around 1984). Naturally, I instantly recommended ***FORMAT*** as the way to get an old Spectrum well and truly functional (at the moment it works, but that's about it - it needs a PLUS D and disc drive for starters). I have also had to use PCs a lot lately. Getting utterly fed up with them has also re-kindled my interest in Spectrum and SAM (Please find form and money enclosed), and also driven me to the point of 'turning people onto' FORMAT PC. As for myself, I am looking forward to reading future issues of ***FORMAT***.

Yours sincerely, Richard Mason.

Many thanks Richard, glad to have you back. ***Ed.***

Dear Editor,

Will you please thank Roy Gardner for me for the tip he gave to Peter Williamson in 'Your Letters' Vol.11 N°2 about the SAM disc drive 2.

My SAM developed a fault on the green colour channel. I traced it to the big chip being no doubt the video chip. Thinking that would be costly to repair, I bought a second-hand SAM similar to mine with one floppy drive. It worked well with all the colours etc. I then inserted the floppy drive from mine to have the benefit of

two. You can imagine how disappointed I was when I kept getting an error message "No such drive". Most of my floppies have SAMDOS 2 to boot up. On reading Roy's letter I re-installed the second drive. The same error came up with SAMDOS, so I booted up with a MasterDOS disc and the second drive now operates.

Yours sincerely, J.Kenrick.

If you are using SAMDOS you do need to boot up using the original SAMDOS master disc (or a copy of it) so that the menu program will detect the 2nd drive. Then, if you format a disc and save the SAMDOS system file to it, you can copy the new (two drive) version of SAMDOS to your other discs. That said, MasterDOS is much better.

And yes, it could be the 1377 video chip you were talking about. These are available in a kit for replacement. If you can solder reasonably well (and if you managed to trace the fault you must know a bit about electronics, so my guess is that you can solder) then it's not too difficult. The kit has instructions, the 1377 chip and a chip socket, all for £4.95 including UK p&p. You may find your chip is already socketed, about 20% of machines were made that way. ***Ed.***

Dear Editor,

As a past subscriber to ***FORMAT*** I was wondering if you could perhaps help me out. I am trying to get hold of a replacement Philips SA1099 Sound chip in time for Christmas.

I noted in Vol 10 N°4, December 1996 issue of ***FORMAT*** that the editor pointed out at the time that the Comms interfaces were made to order, but the sound chip was obtainable at or around £10.95.

If you could supply me with clarification on the above plus any deliver/delay times, then I shall be only too happy to use your service, failing that the address of an alternative source would also be very helpful!

Thank you for your assistance in this matter.

Yours sincerely, Mr S.C.Greenfield.

If you can manage a bit of soldering then yes, the sound chip is available. The cost is £14.95 (£10.95 to INDUG members) and this is for the chip and chip holder. Full instructions are included. ***Ed.***

Dear Editor,

I would really appreciate it if someone could tell me where I could get hold of some DS/DD coloured discs.

Yours sincerely, Lance St.Cyr.

Try Viking Direct on 0800-424444. They have packs of 'Rainbow-Coloured' discs, but priced at around £10 which I consider nothing short of exorbitant. However, they are the only people I can find that have coloured discs as regular stock items.

It is well worth trying a local computer show, the discs are bound to be cheaper there but you may have to hunt for coloured ones. If you do find a reliable supplier please let us know. ***Ed.***

Dear Editor,

Renewal for another year attached. Just wondering what I've done to deserve the '?1A' in my membership. At least it didn't say 'A1?' or I would have sued....

Sorry can't find time to fill in the 'three best/worst' articles bit but Jenny's pieces were undoubtedly the outstanding contributions of all. I will have to miss the Get-together in Gloucester, as I'm already supposed to be in two places over the weekend.

Unlike yourself, I noted not only Roy Burford's letter in the October 7th 'Connected' (Daily Telegraph supplement) but also a reply to a letter in the 'Faqs! facts! fax! column which mentioned someone with whom you may also be acquainted. Assuming you have

binned your original copy, I enclose a photocopy of the piece in question. You may recall I brought several Spectra along to one of the first Gloucester meets to show their being linked up via the LAN, and running a multiple display timetable program and several other model railway applications.

You might be interested to know that we have had almost 50 enquiries to date as a result of that reply, and several new members as a result.

Yours sincerely, Paul King.

I think we have explained our coding system before Paul, but as it was a long time ago it is worth explaining again.

On the top line of the label you will find a 5 digit number which is your membership number, a 4 digit number which is your expiry date, and a special 3 digit code we use to aid sorting.

The expiry date takes the form of, say, 0998 - which means, in this example, that membership runs out at the end of September 1998, which happens to be the time we print the labels to send the October'98 issue of ***FORMAT***.

The sort code works like this. The first digit can be @,? or #. @ simply means the person is a live member. In your case you had a ? which means that a renewal notice is enclosed (we send out renewals with the last two issues by the way). A # tells Jenny that there is something to go in the envelope - usually an order. There are a few other codes we use internally but you will never get to see them. The second digit of the code is 1 if you are a UK member, 2 if overseas and paying the surface mail rate, and 4 if you are an airmail overseas member. Again, there are a couple of special code but most normal members would never see them. Then finally, the last part of the code is A, B or C. A means you are a Spectrum & SAM INDUG member. B is for PC members, while C means a member belongs to both sections.

So you see, the top line of the label tells us everything we need to know when its printed out - it is easy when you know how to read it.

Glad you enjoy the Gloucester shows. Should have 1998 dates very soon now. ***Ed.***

Dear Editor,

I had to write to say how horrified and upset I was to hear from the pages of November ***FORMAT*** of the death of John Wase's wife Lorri after only four months of marriage, and this after losing his first wife in tragic circumstances not very long ago.

Although I have never met John, I have written to him several times to his 'Short Spot' page. I am sure there will be many other readers of ***FORMAT*** who will feel the same way

With reference to the horrors expounded by Jenny in her article on the 'Millennium Effect', it struck me that surely the problem is being tackled from the wrong end.

If all the computers will happily trundle on after 31st December 1999 thinking it is now 1st January 1900, then if you can't beat them, join them. All that is needed is to decide world-wide that the 1st January 2000 shall be a Monday. As people would lose a weekend break just decree that January 1st and 2nd shall be a public holiday.

The manufacturers of calendars and diaries would have extra work revising the calendar for the next millenium but I don't suppose they will have printed them as yet.

This to me seems a better alternative than having to break down bank buildings to get the safe door timers etc.,

The change proposed would not alter the calendar from the astronomical point of view, we are merely changing the name we give to the days starting on 1st January 2000.

Back in medieval times I believe quite

drastic changes took place in the then current calendars before the present system was evolved, so a change would not set a precedent.

Yours sincerely, Peter Williamson.

Thanks Peter, both for your kind comments regarding John's sad loss, and for your interesting ideas on the year 2000. ***Ed.***

Dear Editor,

Enclosed are my subscription renewal for next years ***FORMAT*** magazine. Also, can I say yes please to both Tony Kinch and Ken Murray-Taylor for more details of their Messenger/Secretary and the ***FORMAT*** indexes, that have been mentioned in recent editions. Will we be able to get copies of the discs from them or from you at ***FORMAT?***

I would also take this opportunity to thank both Ray Bray and Eric Day for their help and the disc for Tasword II, and to say that, now I have at last got rid of the builders, and most of their mess, I shall be writing them both in the very near future, their advice has been of great help to me with my problem of being able to read PLUS D discs on the SAM.

I have also found that by using the Tasword II mods that Mike Haines wrote, I can not only read the directories on the PLUS D discs, I can also print out labels for the discs, so thanks again to all three people. All I want now is to be able to do the same with 40 and 80 track OPUS discs, can anybody help me please?

I wonder if you have seen the latest catalogue from TANDY, price £1.00. They are selling 1.44mb disc drives for £15.99 each.

Oh! by the way, what is the chance of getting any of those little white plastic pieces which go under the keys and the black baseboard of the SAM. The one under my Return key has gone home, so I have to use the Return without its proper key on top. I do hope you know what I am talking about.

Well! that appears to be all I can say, except to take the time to wish all at ***FORMAT*** HQ to have a Merry Christmas and a Happy New Year, and keep up the good work with the magazine.

All the best.

Yours sincerely, Peter Deane.

Thanks for all your comments Peter. I'll get Jenny to put a couple of the white plastic bits in with your ***FORMAT***, so hopefully your Return key will be back in operation soon. ***Ed.***

Dear Editor,

Thanks for my issue of ***FORMAT*** this morning having just subscribed. I found most of it quite interesting but not having a SAM computer means that some of them are not much good to me. I am a Spectrum fan myself having two 48K rubber key ones! One with an Opus drive connected and a +2 with an interface 1 and three micro drives which I use the most. I'm writing to you for two reasons:-

1) Do you sell PLUS D's with drive or can you tell me where I may get one, I do hope you can help me on that one.

And 2) The software you sell for the Spectrum comes on PLUS D disc, am I right? If so will the Z80 emulator (I do have a registered copy) read the disc? I know it says it will in the doc's but can you say for sure! I don't want to order anything that I cannot use.

Your sincerely Michael Harrop.

Don't worry Michael, there is lots of Spectrum stuff in ***FORMAT*** as well, although we can always do with more - especially items that are general Speccy and not specific to any one disc system.

Your best bet for a PLUS D is the second hand market, they cannot be purchased new any more.

My answer to your second question has

to be 'I'm not sure', but most things do work on the Z80 emulator (still the best I've used). If you are on the Internet then try the newsgroup comp.sys.sinclair as there is bound to be someone there who has tried the items you are interest in. ***Ed.***

Letters may be shortened or edited to fit on these pages although we try to edit as little as possible.

This is YOUR letters page so it is up to you to fill it with interesting things. Come on, get writing, any subject even remotely related to computers. Just keep things as short as you can so we can fit in as many as possible each month. Please write clearly or type your letters. Send them to the address on page 3 or Email us at FormatPub@aol.com.

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"Well I think The Four Cyclists of the Apocalypse is bloody stupid"

Writing for FORMAT

The Spectrum is now 14 years old, the SAM a sprightly 7, and ***FORMAT*** has recently be celebrated its 10th birthday.

In that time an incredible amount has been written and published about our two favourite machines. You may think there is nothing more to be said or done - but you would be *WRONG*.

If you look at our recent special anniversary issue which contained a reprint of the first ever introductory issue of ***FORMAT*** you can see how the standards have risen over the years - and we want to continue putting out a magazine each month for at least another ten years - a magazine that is interesting, informative and bloody good value for money.

But we can only do that with your help. We need your contributions. Letters, items for Short Spot, questions for the Help Page, articles - both large and small, reviews, news.....

There are so many ways in which each of you can help us to keep ***FORMAT*** going well into the new millennium - but we do need your help and we need it NOW!

You don't have to be a brilliant writer to contribute, you just need something to say - and every one of you out there has something to say. It is our job to edit your contribution into shape for ***FORMAT*** - and that is a job we love to do. So come on, get writing, even the smallest items is better than nothing.

Please, do your bit to help, you can't expect others to contribute if you don't. Honest, it doesn't hurt, and you will have the pleasure of seeing your work in print - extra copies of ***FORMAT*** to pass on to relatives are available at discount prices <grin>. Ring us if you need help or ideas.

MINEFIELD

A step by step guide to writing a C program using SAM C.

Part 3.

By:- John Eyre

This series of articles is not intended as a tutorial on the *SAM C* language or on how to program. Rather, it is a step by step guide to the development of an example game using *SAM C*. It's written around the standard version of *SAM C*, not *SAM Vision*.

Last month we looked at the main variables the game will use, and at the functions to initialize the program. Let us continue with the next stage of setting up for the game.

Stage 2 Setting up functions

Hopefully flushed with success, you are ready to add some more functions. We will need to make an addition to main().

```
main()
 {
  initialize ();
  setup ();
 }
```

Both initialize() and setup() do tasks in preparation for the game. The difference is initialize() performs tasks which only need to be done when the program is first run and setup() performs tasks needed before the start of each game.

```
void setup ()
 {
  int i;
  cleared=mines=bang=finished=0;
 // reset counters and flags.
  xx=cols/2-1;
 // make cursor co-ords
  yy=rows/2-1;;
 // centre of minefield.
  paper (BACKGROUND);
  cls (1);                    // (1
) clear top of screen only.
  prn_mines_left ();
  pen (15);
  for (i=0;i<rows*cols;i++ ) //
fill window with "."
   printf (".");              //
need rows*columns of them
  put_mines ();
  // prn_cursor (xx, yy, 0);
 }
```

In C there are often quick ways of doing things. Joining a series of variables separated by '=' means assign the value at the end to all these variables. The symbolic constant BACKGROUND is used to set the background colour of the window. Note that the parameter 1 passed to function cls(), ensures that only the window is cleared. If we used cls (0) as before then the couple of lines of the lower screen would also be cleared to the colour BACKGROUND.

Apart from the slightly different appearance C's *'for'* construct performs just the same as FOR NEXT in BASIC. The C format is:-

```
for (start value;  end condition
;  step modifier)
 {
  statements to be processed;
 }
```

In this instance there is only one executable statement relevent to the for loop so the curly braces {} are not required. In accordance with the step modifier *i++* the value of *i* is

incremented AFTER each loop.

The statement *prn_cursor (xx, yy, 0);* is included as a comment. Eventually we will want a cursor to be printed as part of setup, but we won't be writing the function at this stage so it will be hidden from the compiler by making it appear as a comment.

```
void prn_mines_left ()

 {
  paper (BACKGROUND);
  pen (1);
  at (0,cols/2-1);          // pri
nt at centre of top line
  printf ("%02d \n",total-mines)
;
 }
```

As we need to calculate the position to print centrally in the top line, at() is used even though we are using printf(). However a different aspect of print formatting is shown. The %02d within the print data means print, with leading zeros and 2 digits, a decimal integer value here. The value to be printed is found after the quotes, i.e. the value of total-mines. The range of print formatting options that can be used with printf() is vast, see the SAM C manual or refer to a C Reference book. I won't attempt to go into any more detail here.

```
 void put_mines ()

  {
   int i, j, k;

   for (i=0;i<rows;i++ )    //
step through each cell
    for (j=0;j<cols;j++ )    //
of the array map
     map [i][j]=0;
// resetting cells to zero.
   for (i=0;i<total;i++ )
    {
     do
      {
       j=(abs (rand ()) % rows);
 // select random position
       k=(abs (rand ()) % cols);
      }
     while (map [j][k]);     //
loop if location not empty
     map [j][k]=15;          //
insert 15 to indicate mine.
    }
  }
```

So far the for loop has been used when repetition is required because we know how many times we want the program to loop. In this function we need to generate a random position to place a mine, check that there isn't one there already, looping round until an empty location is found. Although we can't set the precise number of times we may need to loop, we can set the conditions to continue to loop. In this situation we can use a ***do while*** loop, the format is:-

```
do

 {
  statements to be executed;
 }

while (condition);
```

The following function prototypes need to be declared:-

```
void setup ();
void prn_mines_left ();
void put_mines ();
```

Use the same procedure as before, write the function prototype declarations at the front part of the listing, SAVE the text then compile the code. When you run the program and select a level, the game window should have the colour chosen for the constant BACKGROUND. A number should be printed in the centre of the top line and the rest of the window filled with dots.

Stage 3 Cursor functions

We will need to change main() again, it should be modified to:-

```
main()
```

```
{
 char key;
 initialize ();
 setup ();
 do
  {
   key=getch ();
   move_cursor (key);
  }
 while (key != 'q' && key != 'Q
');
}
```

A ***do while*** loop is used again, so that the *move_cursor()* function can be repeatedly called to move the cursor around. Since we don't want an infinite loop, pressing the Q key is used as the exit condition. Note the *!=* (not equal to) means the use of negative logic which requires **&&** when perhaps **||** might seem more obvious.

```
void move_cursor (char key)
{
 int x, y;
 x=xx;                    // store
old co-ords in x and y
 y=yy;
 switch (key)
  {
   case 8:                // left
    {
     if (xx) xx-= 1;
     break ;
    }
   case 9:                // right
    {
     if (xx<cols-1)xx+= 1;
     break ;
    }
   case 10:               // down
    {
     if (yy< rows-1)yy+= 1;
     break ;
    }
   case 11:               // up
    {
     if (yy)yy-= 1;
     break ;
    }
   default :
    return (0);
  }
// if cursor has moved print at
old co-ords using
// background colour then print
new cursor
 prn_cursor (x, y, BACKGROUND);
 prn_cursor (xx, yy, 0);
}
```

The purpose of this function is to decide whether one of the cursor keys is being pressed and if it is adjust the cursor co-ordintes, after first checking that the cursor is not already at its limit. This could be done using a series of if statements but we will use the ***switch*** construct. The switch works with a (condition) in our case the variable ***key*** which will have the value of 8, 9, 10 or 11 if a cursor key is pressed. The selection process for the first case can be considered as:-

In the case that ***key*** is 8 then if xx is more than zero then subtract one from xx, exit (break) from the switch block. If ***key*** is not 8 then consider the next case.

If the value of key does not match any of the cases then the instructions under default are followed i.e. return(0), exit the function.

```
void prn_cursor (int x, int y, i
nt p)
{
 int num, chkd;
 num=chkd=0;
 paper (p);          // set paper
colour as passed in p
 pen (15);
 at (y+1,x);         // y+1 to all
ow for top line
  if (!chkd)
   printf (".");  // if not cle
ared print a "."
```

```
   if (chkd== 1)
    {
     if (num== 15)
      {
       finished=bang=1;     // oo
ps you hit a mine
       paper (10);
       printf ("**");
      }
     else
      {                    // already
 cleared. if no surrounding
       if (!num)           // mine
s print blank space
        printf (" ");
       else
        printf ("%d",num); // el
se print the number of mines
      }
    }
   if (chkd== 2)           // if m
arked as a mine
    printf ("**");
 }
```

The statement *num=chkd=0;* is temporary and will need to be changed at the next stage. The selection process is more complicated this time with decisions being made against a number of conditions so we will use combinations of the ***if*** and ***if else*** constructs. The benefits of using indenting become more obvious as the complexity increases. For clarity the format for ***if else*** is:-

```
if (condition)
 {
  statements processed;
 }
else
 {
  statements processed;
 }
```

Take care when using combinations of ***if*** and ***if else***. The compiler will match an ***else*** with the nearest preceeding non-matched ***if*** which may not produce the correct logic. If this happens you can try to rearrange the statements or add a dummy ***else*** to achieve the correct result.

By assigning the fixed value 0 to *num* and *chkd* we will not test all the logic of this function. Normally decisions will be made based on information extracted from the minefield location at the position of the cursor, but we haven't written the function to do that yet. For the moment you can either recompile with different values of *num* and *chkd* and see what happens or rely on typing it in correctly. Acceptable values for *num* are 0 to 8 and 15 and for *chkd* 0 to 2.

The following function prototypes need to be declared:-

```
void move_cursor (char k);
void prn_cursor (int x, int y, i
nt p);
```

A small change is needed to one of the earlier functions, so locate the function setup(). The comment marker // that was used to prevent *prn_cursor (xx, yy, 0);* being seen as an executable statement can now be removed as the function is now available.

Save the text, compile the code and run the program. This time it should be possible to move the cursor to every position of the minefield. If the cursor doesn't appear until a cursor key is pressed then you forgot to change setup() to allow prn_cursor() to be called.

And that is where we will leave things this time.

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